The financial cost of aging is often unexpected — but very serious — to many Americans. One of the biggest bills for seniors is late-in-life care, often in a nursing home, for those who can no longer meet basic needs on their own. About one in six seniors will need at least three years of care, with an average cost of $84,000 a year.

Despite the price tag, only about one in five older Americans insure themselves against this risk, according to a recent paper published by the National Bureau of Economic Research. Five researchers — John Ameriks of the Vanguard Group, Joseph Briggs of the Fed’s Board of Governors, Andrew Caplin of New York University, Matthew Shapiro of the University of Michigan, and Christopher Tonetti of Stanford University — have tried to explain this behavior. Despite the great expense and substantial chance of needing late-in-life care, why do so few buy a policy to protect themselves?

The authors posed two potential explanations for this puzzle at the outset. The first is that before people need this care, they’re either overly optimistic or unsure about their late-in-life needs — so this underinsurance reflects a risk assessment by consumers. The other explanation is that this particular market is riddled with gaps: Consumers face a poor selection of insurance plans, so they decide that buying a policy is not worth the cost. After analyzing a sample of more than 1,000 seniors aged 55 and over, the authors concluded that much of the puzzle can indeed be understood this way. Far more consumers, they found, would buy late-in-life insurance if these policies were better priced and better designed.

The study polled Vanguard clients to find out how many would buy insurance if they were offered well-priced, actuarially fair products that they believed would meet their late-in-life needs. It compared these results against a theoretical model, developed by the authors, that estimated the highest possible percentage of seniors who would buy such a policy. In contrast to the 22 percent who currently own policies, the coverage rate increases to 46 percent after accounting for respondents who would buy the improved product. That share comes much closer to what the model estimated as the theoretical “ceiling,” which was 59 percent. In effect, this means that much, although not all, of the “gap” between actual purchases and modeled demand can be explained by a poor offering of insurance products.

What would a typical policy look like if it were better designed and actuarially fair? For women aged 55-64 who decide to buy a policy, the authors found, it would provide a median annual benefit of $33,000 with a total premium cost of $72,000; for men of the same age bracket, it would come to a median annual benefit of $39,000 with a total cost of $65,000. (The difference accounts for the fact that women usually live longer than men, and with a longer lifespan comes a longer time in a care setting.) To offset these premium costs, respondents typically said they would scale back the amount they would leave to heirs.

The researchers listed some possible explanations of why the current insurance market falls short from the consumers’ perspective. One reason is that many plans don’t differentiate premiums by gender, which adversely affects male customers because — as noted — they don’t live as long as women on average. In addition, most of the survey respondents said that the typical plans offered are too expensive, and cover too little, to be a wise insurance purchase. The authors noted that this perception is borne out by the fact that these plans do often have higher overhead than other forms of insurance, and these costs are passed on to consumers. Other research suggests that these plans usually cover only about two-thirds of basic costs and often exclude conditions that require long-term care, such as dementia. Consumers are concerned about the risk of rate hikes and of being dropped from those plans if they can’t pay those increases. And finally, seniors face a shrinking number of plan choices.

For many, the fallback option is Medicaid, which insures most low-income seniors who need long-term care. But many seniors and their families see this route as less than ideal, because the care is considered to be lower quality and health outcomes are worse. Otherwise, seniors or their families must either bear the substantial costs of private care or rely on a family member for caretaking.

The study addressed only consumer behavior and did not draw conclusions about the reasons why insurers did not offer more appealing policies. The authors noted, however, that other research has pointed to concern about adverse selection (that is, the greater incentive for those who believe they will be in need of long-term care to buy policies) and crowding out by Medicaid, among other explanations, to attempt to illuminate insurers’ behavior.

Americans already willingly accept the idea of insuring their cars and their homes, and many buy term life plans. The findings of this study suggest that they might do the same in greater numbers for old-age care if they had better options.